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For More Information
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About Cypress
Cypress (NASDAQ: CY) delivers high-performance, high-quality solutions at the heart of today's most advanced embedded systems, from automotive, industrial and networking platforms to highly interactive consumer and mobile devices. With a broad, differentiated product portfolio that includes NOR flash memories, F-RAM™ and SRAM, Traveo™ microcontrollers, the industry's only PSoC® programmable system-on-chip solutions, analog and PMIC Power Management ICs, CapSense® capacitive touch-sensing controllers, and Wireless BLE Bluetooth® Low-Energy and USB connectivity solutions, Cypress is committed to providing its customers worldwide with consistent innovation, best-in-class support and exceptional system value.

MB9A130LB Series

32-bit Microcontroller
FM3 Family

Fact Sheet

MB9A130LB Series are highly integrated 32-bit microcontrollers dedicated for embedded controllers with low power consumption mode and competitive cost. MB9A130LB Series are based on the ARM Cortex-M3 Processor with Flash memory and SRAM, and has peripheral functions such as Motor Control timers, ADCs and Communication Interfaces.

1. FEATURES

- **32bit ARM Cortex-M3 Core**
  - Processor version：r2p1
- **Clock**
  - Maximum clock frequency：20MHz
- **Base Timer**：8 channels (Max.)
- **Multi-function Timer**：1 unit (Max.)
  - 16-bit free-run timer ×3channels/unit
  - Input capture ×4channels/unit
  - Output compare ×6channels/unit
  - A/D activation compare ×1channel/unit
  - Waveform generator ×3channels/unit
  - 16-bit PPG timer ×3channels/unit
- **Watch dog Timer**：1 channel (SW) + 1 channel (HW)
- **Multi-function Serial Interface**
  - Selectable from UART/CSIO/I^2C
  - MB9AF131KB/132KB: 4 channels(CSIO & I^2C is Max 3ch)
  - MB9AF131LB/132LB: 8 channels
- **Real Time Clock**：1 unit
- **External Interrupt Controller Unit**
  - MB9AF131KB/132KB: 6 pins(Max.) + NMI 1 pin
  - MB9AF131LB/132LB: 8 pins(Max.) + NMI 1 pin
- **12-bit A/D Converter**
  - MB9AF131KB/132KB: 6 channels (1 unit)
  - MB9AF131LB/132LB: 8 channels (1 unit)
- **Low Power Consumption Mode**
  - 6 low power consumption modes supported
  - SLEEP mode/TIMER mode/RTC mode/STOP mode /Deep stand-by RTC mode/Deep stand-by STOP mode
- **General Purpose I/O port**
  - MB9AF131KB/132KB：37 (Max.)
  - MB9AF131LB/132LB：52 (Max.)
- **Built-in CR**
- **Debug**
  - Serial Wire JTAG Debug Port (SWJ-DP)
- **Low Voltage Detector**
- **Clock Super Visor**
- **Power Supply**：1.8 to 5.5V

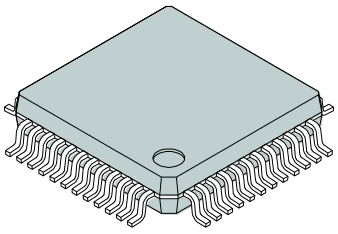
2. PRODUCT LINEUP

Parameter \ Part number	MB9AF131KB/LB	MB9AF132KB/LB
Flash (Byte)	64K	128K
RAM (Byte)	8K	8K

3. ORDERING INFORMATION

Part number	Package
MB9AF131KBPMC	Plastic・LQFP(0.5mm pitch),48-pin (FPT-48P-M49)
MB9AF132KBPMC	
MB9AF131KBQN	Plastic・QFN(0.5mm pitch),48-pin (LCC-48P-M73)
MB9AF132KBQN	
MB9AF131LBPMC1	Plastic・LQFP(0.5mm pitch),64-pin (FPT-64P-M38)
MB9AF132LBPMC1	
MB9AF131LBPMC	Plastic・LQFP(0.65mm pitch),64-pin (FPT-64P-M39)
MB9AF132LBPMC	
MB9AF131LBQN	Plastic・QFN(0.5mm pitch),64-pin (LCC-64P-M24)
MB9AF132LBQN	

4. PACKAGE EXAMPLE OF REFERENCE



Plastic ・ LQFP、64-pins
(FPT-64P-M38)

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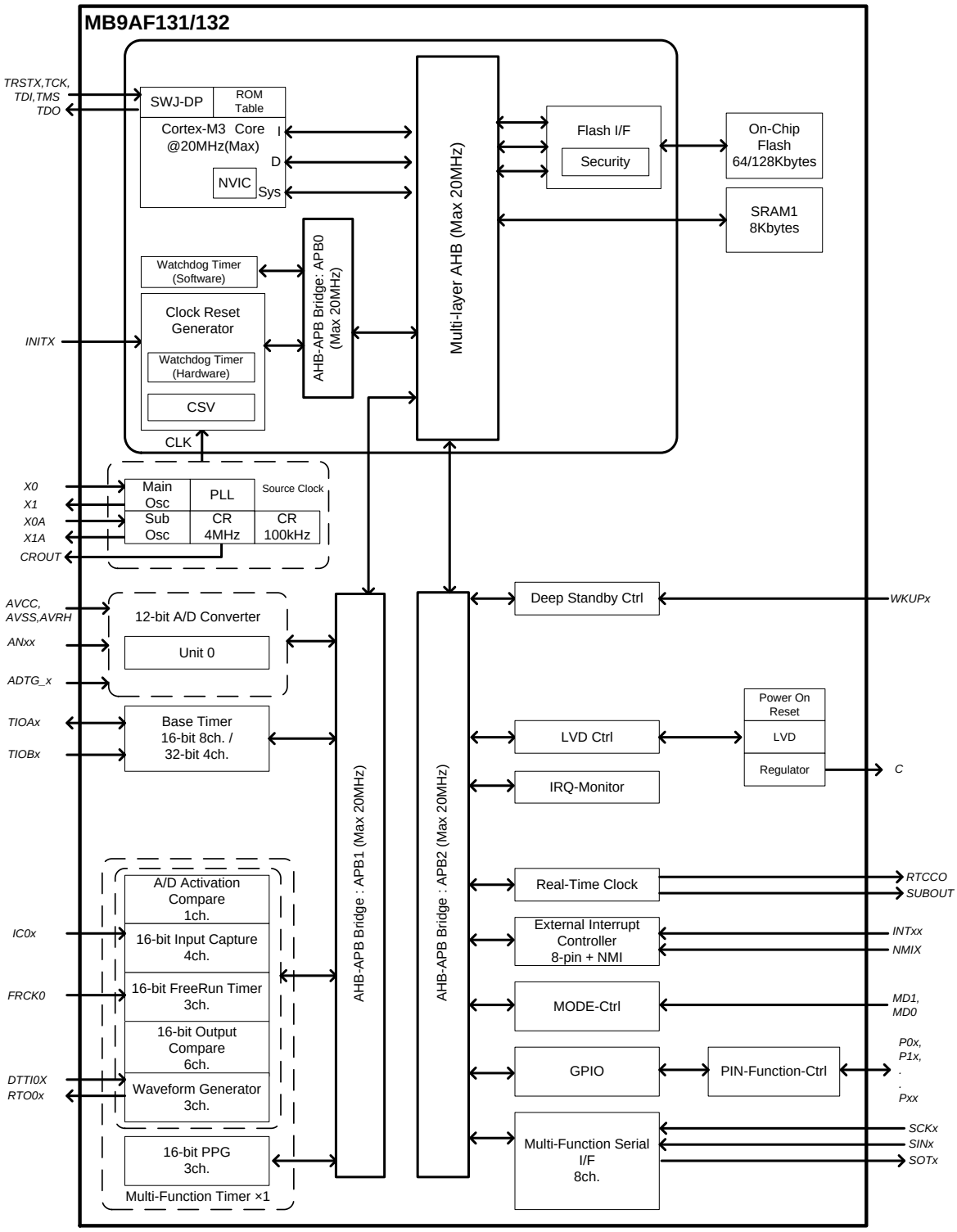
5. BLOCK DIAGRAM



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